DOCUMENT RESUME

ED 150 496 CG 012 163

AUTHOR Williams, Clive
TITLE The Use of Peer Groups in Assisting Freshmen Students Adjust to University.
PUB DATE Jun 75
NOTE 49p.

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS *Adjustment (to Environment); *College Freshmen; Counseling Goals; *Group Experience; Higher Education; Individual Development; *Peer Relationship; Program Descriptions; Research Projects; *Student School Relationship
IDENTIFIERS *Australia (Sydney)

ABSTRACT

This study centers on the difficulties experienced by many students in making the transition from secondary school to university. The experimental program involved assigning incoming freshmen to small groups led by upperclass honors students. The groups met at least once weekly, with the senior student acting as resource person to encourage the new students and share their concerns. The upperclass students, in turn, met with university counselors and staff to receive support and advice. Various personality and adjustment tests were used to measure freshman attitudes. Although some methodological problems existed, it was found that the freshmen who participated in the groups were significantly higher on many of the measures of adjustment than those who did not. (Author/BP)

**********
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
**********

ED150496

# The Use Of Peer Groups In Assisting Freshmen

## Students Adjust To University

Clive Williams

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

University Of Sydney

Student Counselling Service

Research Report No. 1

June 1975



CG 012163

Contents


| Page | |
|---|---|
| 1 | Outline of Study |
| 7 | Hypotheses |
| 8 | The Measures |
| 11 | Procedure |
| 14 | Analysis and Results |
| 36 | Discussion |
| 39 | References |
| 41 | Appendix |

## ACKNOWLEDGMENTS

The conduct of this study was a co-operative exercise between the staff of the Student Courselling Service and staff of the Geography Department. Professor Langford-Smith and Associate Professor Rutherford actively and willingly co-operated in the development of the study and made the necessary organizational changes to permit the evaluation of the programme. Jack Devery and Flora Turton from the Geography Department joined student counsellors John Chapman and Daphne Degotardi as resource support for the senior Geography students involved in the programme.

Particular thanks are due to the third year honours students who gave up their time to act as group leaders.

Sue Baulch until her resignation, and then Geoff Ainsworth, research assistants in the Student Counselling Service, were responsible for data compilation and analysis. Geoff Ainsworth assumed control of the computer analysis.

The study depended heavily upon the contributions of those mentioned above. However, they are not responsible for any interpretations placed upon the observed outcomes. The writer assumes full responsibility for all such interpretations.

## Outline of Study

For many years persons have been expressing concern about the difficulties of transition from secondary school to university. Many conferences have been organized to discuss the problem and reports of some of these, ranging over a twenty year period, have been published (e.g. University of Queensland, 1955; University of New South Wales, 1960; University of Adelaide, 1971, 1972). Despite all the words spoken at such conferences little effective action has followed, and concern about transition difficulties is as strong as ever.

Student Counselling Services on a number of campuses have made various attempts to assist students to adjust to university. At Melbourne, for example, Contact, a student run information and referral service has run for a number of years (see Frederick, 1970). On our own campus the Student Counselling Service endeavoured to provide a place, called the Meeting Place, where students could meet and talk to other students. (This activity lasted for only two years and has discontinued because it did not appear to be effective in achieving its aims).

One of the major weaknesses in attempts to assist incoming students to adjust to the university environment has been the tendency to view them as a fairly homogeneous group for whom the new experiences will be relatively uniform. In fact such a view is far from the truth. The personal resources, experiences and expectations of new students are tremendously variable. All of them must quickly adjust to a much larger environment with complexity of buildings and building-uses. Some

fortunately find themselves in classes with people they have known from school and have a ready made basis for developing social contacts. Many don't, and find themselves having to develop new acquaintanceships and friendships at a time when they feel most insecure in a new environment. The change from being a student at school to being a student at university can prove a most disturbing experience.

Some students, such as those in set courses (e.g. Veterinary Science, Medicine), can share these experiences with an unchanging group of fellow students following the same course. Others, particularly those in Arts, Science and Economics, find themselves moving from one class of hundreds to another class of hundreds and not recognising a familiar face. Many of them feel threatened by this experience so they lose any sense of personal worth or importance in the "institution" in which they find themselves. In their increasing loneliness they begin to feel that nobody really cares about their existence. Even when opportunities for closer interaction do occur such as in small group activities like practical classes or tutorials, little attempt is usually made to promote personal interaction between students. This is so often left to chance, the expectation being that it will be a naturally occurring event.

Discussions within the Counselling Service and with members of the academic staff led Counsellors to believe that interaction between students as a contribution to their adjustment cannot be left to chance

but should be promoted and should be promoted from the beginning of their university experience. Moreover it seemed that the most effective way to promote interaction was at the departmental level since it is more meaningful to focus on students whose work activities naturally bring them together than artificially to create groups for "adjustment" purposes. Ideally a university provides opportunities for students to meet and mix with others in different disciplines and with different goals and outlooks. However, it is more likely that students can make those sorts of contacts if they first feel secure in their own course groups. The importance of this security to both the personal and academic experience of new students is too great to be left to chance.

In addition it seemed that any programme designed to help new students would have a greater chance of success if students were involved in the helping process. New students may find it easier to seek advice on settling in problems from persons near their own age who had recently experienced similar problems and who have presumably coped with them successfully.

For these reasons it was decided to conduct a study confined to one university department in which the effectiveness of using senior students to assist incoming students could be assessed. Senior members of the Geography Department expressed an interest in co-operating in such a project and accordingly planning for the study began late in

1972 with the aim of instituting it at the beginning of the 1973 academic year.

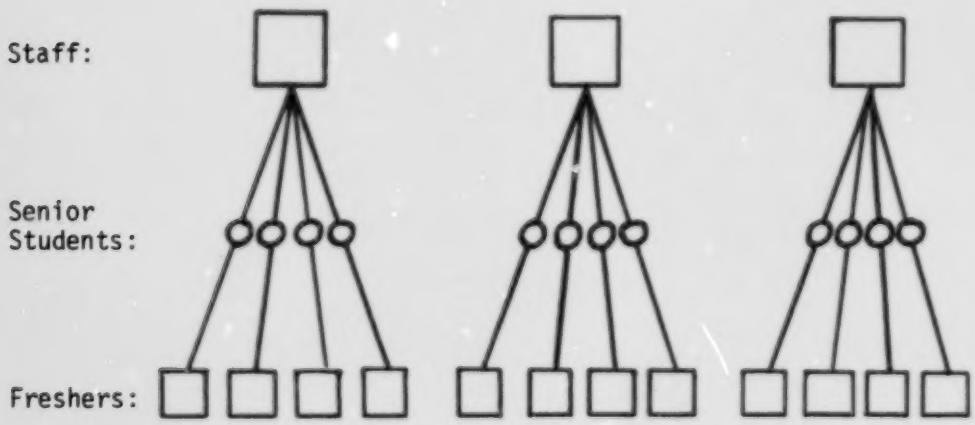
The decision to conduct the programme in the Geography Department had one disadvantage. The Geography course provides greater opportunity for students and staff to get to know each other than do many other courses since students are involved in practical classes and also in field excursions. Therefore, the chances of being able to demonstrate the effectiveness of a peer-counselling programme would be diminished. However, if such a programme could be demonstrated to be effective in a department such as Geography then there would be even greater prospects of it being effective in those departments whose academic requirements did not bring students together in the same way.

The Proposed Programme

What was proposed was basically a simple procedure though it required organization and also co-operation from a number of people. It was proposed to allocate at the commencement of the academic year small groups of first year students to senior student leaders. Each group was expected to meet at least once a week initially, and as the first term progressed to decide how often it should continue to meet or whether it should continue to meet at all. The function of the senior student was to act as a resource person for the beginning students, to encourage them to raise issues of concern to them and to be supportive. To

assist the senior students in their tasks it was planned that groups of them should meet regularly with a counsellor and a member of the Geography lecturing staff who was concerned with teaching the first year course. These meetings were designed to enable the senior student group leaders to come to grips with their own difficulties arising from their contact with the freshers and to achieve a greater understanding of their roles.

In organization the programme can be represented in the following diagram:




First year students not allocated to groups were to constitute a control group for the purpose of evaluating the effect of the programme.

The Senior Students

Staff of the Geography Department considered the choice of senior students and decided to invite the second year honour students to participate. This group would be in their third year at the time of the programme. Initially the possibility of viewing the project as an exercise in social geography was considered. This would have meant that students participating in the project would be choosing an option for which they would receive academic credit. This matter was discussed with the students, but it was finally decided not to pursue it and student participation became purely a voluntary activity. Almost all the honours students agreed to participate. It is not known, however, how much the discussion of possible academic credit affected their decisions. Some may have felt implicit coercion though none of them openly expressed such a feeling.

Counsellors and members of the Geography Staff met with these senior students at the end of the 1972 academic year and briefed them on the proposed programme and their involvement in it. Some initial apprehensions were aired and partially dealt with. A further meeting was held during Orientation Week of the 1973 academic year. In all nineteen honours students participated.

Guidelines for the student leaders were prepared and copies given to each participant. A copy of these guidelines appears as Appendix to this report.

## HYPOTHESES

In order to test the programme's effectiveness in helping first year students to adjust to university conditions several hypotheses were formulated. Stated in null form these were:

(1) There would be no difference in anxiety between the experimental (E) group and the control (C) group,

(2) there would be no difference in social adjustment between the E and C groups,

(3) the E group would be no closer to their concepts of the ideal student than would the C group,

(4) there would be no difference in academic competence between the E and C groups,

(5) there would be no difference between the E and C groups in the proportion of students discontinuing the course,

(6) there would be no difference between the E and C groups in the way they experienced attitudes expressed in the Geography Department.

Since the aim of the programme was to assist students to adjust to the university as quickly as possible, it was decided that these hypotheses should be tested at the end of the first term by which time the experimental procedure was to be completed.

## THE MEASURES

(1) Anxiety. Two measures of anxiety were used.

a) The IPAT Self Analysis Form was chosen because it was brief, discriminated within the normal range, has a known factorial structure and provided sub-scores.

b) The Alpert-Haber Achievement Anxiety Test (AAT) was chosen because it provided scores on two aspects of specific test anxiety, facilitative anxiety and debilitative anxiety, the former producing a degree of arousal considered helpful in approaching a test, while the latter produced such a high arousal level that it interfered with performance.

(2) Social Adjustment.

To measure social adjustment it was decided to use an unpublished Self-Concept Scale developed by Chapman. This scale provided scores for positive and negative self regard and contained an inbuilt lie scale. In hospital studies its reliability had been established and it had been shown to be an effective discriminator. In addition it was susceptible to the effects of stress.

(2) Cont....

In addition to this scale additional data were to be obtained from a questionnaire prepared for the study. Information such as the number of club meetings attended, number of university friends, number of outings with university students would be relevant to this issue.

(3) Ideal Student

Information on this topic was to be obtained from the questionnaire prepared for the study. Students were required to answer tne same questions, once in relation to themselves and secondly in relation to how they felt the ideal student would respond.

(4) Academic Competence

To gain information on this aspect two different approaches were adopted. In the first place the Brown Holtzman Survey of Study Habits and Attitudes was chosen. This test was used because it provided scores on study attitudes as well as on study habits. In addition to these scores, results in the first term test in Geography I were to be examined.

(5) Discontinuations

This required a simple check on enrolments to ascertain the number of students from each of the E and C groups who had discontinued Geography I.

(6) Experience of the Geography Department

For this variable four measures of environmental press were used. These were based on scales developed by Genn (1971) in a study of chemistry departments in Queensland. The Genn scales were based on the work of Pace and Stern (1958) which in turn owes its theoretical origin to the work of Murray (1938). For the purpose of this study the word 'geography' was substituted for 'chemistry' in the Genn scales. The four scales used were Abasement, Affiliation, Counteraction and Nurturance.

## PROCEDURE

During the third term of 1972 a questionnaire was prepared and tried out on a sample of Geography I students who were invited to comment on it and to suggest improvements for clarity and presentation. Their responses to each question were analysed with a view to checking the effectiveness of the various response categories in attracting responses. A final version of the questionnaire was then prepared.

Discussions among Geography staff, counsellors and the student group leaders were held in third term 1972 and Orientation Week 1973.

With the co-operation of the Registrar's Department a computer listing of first year students enrolled in Geography I was provided during Orientation Week. Nineteen groups of five were randomly selected for allocation to a student leader.

During the first week of first term a meeting of all Geography I students was called. At this meeting students were addressed by the Head of the Geography Department and the Director of the Student Counselling Service, both of whom stressed their interest in assisting students settle into the university. All students then completed the IPAT Self-Analysis Form and the Alpert-Haber A.A.T. so that measures of their anxiety were available before there could be any effect either of their university experience or of the experimental programme.

Students were then allocated to their groups, met their group leaders and went off to have their first meeting, while those in the control group (i.e. those who were not allocated to groups) dispersed.

It should be noted that in the operation of this programme students were not asked to volunteer. Previous experience in offering special programmes for first year students had shown that few students volunteered to participate, as apparently they were reluctant to identify themselves as needing assistance in any way. In the conduct of the Geography project the question of volunteering was not raised, nor were students told that participation was compulsory. They were simply presented with the organization and left to decide about their continued participation following their experience of meeting with the other group members.

Initially it had been planned to offer the Control group an alternative programme of a traditional academic nature, such as a lecture on "How to Study". However, since most of them had received something similar as part of the Orientation programme it was decided not to proceed with this plan. The whole group were advised that manpower limitations prevented the Geography Department from offering the group programme to all students and that names had been pulled out of a hat to determine those to be allocated to groups. Those who were not chosen were

simply told that members of the Department would be pleased to see them if they had any difficulties.

Beyond the point of group allocation there was very little experimental control possible. Obviously much depended on the student group leaders and the subsequent discussions with them indicated that some of them needed more preparation than they had received. Their effects on their groups could be expected to be variable; the life of the groups certainly was. Some groups ceased to function after one or two sessions while one group maintained full attendance over 9 meetings. The mean number of attendances per student over all groups was 3.5.

The programme was not intended to continue beyond the end of the first term. Therefore, all Geography I students were given the various tests and questionnaires during the first week of second term. It was expected that any effects attributable to the experimental treatment would be detectable at that time.

## ANALYSIS AND RESULTS

Before proceeding to statistical analysis of experimental data it is normal to determine at what level of confidence one wishes to accept or reject experimental hypotheses. There is a firmly established convention by which the .05 level is usually adopted. However, this is purely a convention. The determination of the statistical significance level is actually a determination of the risks one is prepared to take of committing a Type I error (rejecting the null hypothesis when it is true ). This decision should really be made on the costs of committing such an error.

In the current study the cost of rejecting the null hypothesis may be to encourage a wider adoption of the experimental procedure. This would entail the use of staff and student time and manpower for a limited period, and not one cent of additional financial investment. If in fact the hypothesis were falsely rejected the cost would be small. However, the cost of not rejecting the null hypothesis when it should be rejected (the Type II error) could be to avoid taking action of potential use to incoming students. In this case the cost of a Type II error seems to outweigh the cost of the Type I. The following statements from Diamond (1959) state this position well. "Viewing the whole field of psychological research as a socially concerted programme, it is better to accept the risk of occasional errors than to invite the

paralysis of compulsive perfectionism ....." (p117). Since this study was an exploratory one it was important not to overlook any leads which might be worth following up. It was decided, therefore, to accept a significance level of .10 for the current investigation.

In all 268 students in Geography I were tested. Some of these, however, were later year students enrolled in a first year course. There were 88 in this category which was excluded from consideration when the random allocation to the experimental procedure was carried out. However, test results were obtained for these students so that, in addition to the Control group, they formed a reference group with whom the experimental group could be compared. This report, however, does not include any data relating to later year students.

Usable results were obtained for 50 persons in the experimental group and 130 in the control group. For some variables, however, one or two persons did not provide complete responses. Therefore, the number of cases is not constant for all analyses.

The selection of students for the experimental group was carried out on a purely random basis. No attempt was made to balance the sexes since it was assumed that random allocation would achieve a sex distribution more or less in keeping with the distribution in the group as a whole. However, the final outcome was one of imbalance. Within the experimental group there were 11 males and 39 females while within the

control group the figures were 56 and 74. A chi-square test of these frequencies shows them to be significantly different from chance expectancy. ($\chi^2$, df=1, =5.99; $p<.05$).

The imbalance in sex distribution had to be taken into account in analysing the results of the experiment. If any differences were shown to exist between experimental and control groups it would have to be shown that sex differences did not confound the issue. The procedure followed in comparing the results of the two groups was a two-way analysis variance. Such an analysis permits any interaction effects between the two main variables (in this case sex and experimental treatment) to be identified. In only a few cases was any interaction present. Where sex differences did occur they mostly were evident to the same degree in both experimental and control groups.

Anxiety

The two tests of anxiety were administered at the beginning of the experiment and again at the end of it. The IPAT Self Analysis Form provides scores on Overt Anxiety, Covert Anxiety and a composite score for total Anxiety, while the Alpert-Haber A.A.T. gives scores on Facilitative Test Anxiety and Debilitative Test Anxiety. In the case of each test, scores obtained by each sex within the experimental and control groups at the second testing were compared. Scores obtained

at the second testing could be influenced by two factors - the experimental treatment, and the initial position on the particular variable at the time of the first testing. Both factors needed to be taken into account and the statistical procedure adopted was analysis of covariance with scores on the initial test being the covariate.

No significant differences were detected between the E and C groups on any of the anxiety variables and thus there were no grounds for rejecting Hypothesis 1. However, some significant sex differences were revealed. These occurred on two variables - Debilitating Anxiety, a subscale of the Alpert-Haber A.A.T., and Covert Anxiety, a subscale of the IPAT Self Analysis Form. Table 1 sets out the analysis of covariance for both these variables. Analysis of variance of the pre-treatment scores showed that the sexes differed significantly at the outset. At the conclusion of the experimental programme these differences had increased. In the case of Debilitating Anxiety the mean male score was virtually unchanged, but the mean female score had risen. In the case of Covert Anxiety the mean score for both sexes increased.

This evidence suggests that females begin their university studies showing higher levels of test anxiety and covert anxiety than males and that this anxiety increases as their first year progresses to the beginning of the second term. (It should be noted that the second testing was carried out within a few weeks of the students' first

examinations at university). The experimental procedure had no effect in reducing this level of anxiety for either sex.

TABLE 1

ANCOVA COVERT AND DEBILITATING ANXIETY

| | Source | SXX | SXY | SYY | d.f. | M.S. | M.S.R. | Sig. |
|---|---|---|---|---|---|---|---|---|
| Covert Anxiety | Sex | 125.54 | 165.85 | 219.12 | 1 | 40.46 | 3.23 | .10 |
| | Treatment | 227.17 | 202.23 | 180.02 | 1 | 4.60 | 0.37 | |
| | Interaction | 7.19 | 3.66 | 1.86 | 1 | 0.39 | 0.03 | |
| | Error | 3477.17 | 2582.93 | 3546.16 | 130 | 12.53 | | |
| | MEANS | Male Pre | | 14.82 | Female Pre | | | 16.41 |
| | | Male Post | | 15.07 | Female Post | | | 17.39 |
| Debilitating Anxiety | Sex | 44.38 | 95.13 | 203.87 | 1 | 81.08 | 5.49 | .05 |
| | Treatment | 2.31 | 3.78 | 6.20 | 1 | 1.68 | 0.11 | |
| | Interaction | 43.82 | 35.17 | 28.22 | 1 | 0.01 | .00 | |
| | Error | 4533.19 | 3559.27 | 4715.48 | 130 | 14.78 | | |
| | MEANS | Male Pre | | 26.68 | Female Pre | | | 27.98 |
| | | Male Post | | 26.66 | Female Post | | | 29.41 |

Social Adjustment

Table 2 and Table 3 show the analyses of variance summaries for positive self concept and negative self concept.

TABLE 2

Positive Self Concept

| Source | df. | M.Square | M.S.R. | Significance Level |
|---|---|---|---|---|
| Sex | 1 | 169.46 | 5.47 | .05 |
| Treatment | 1 | 2.98 | .10 | |
| Interaction | 1 | 27.62 | .89 | |
| Error | 176 | 30.99 | | |
| Mean | Male | 28.88 | | |
| | Female | 26.88 | | |

TABLE 3

Negative Self Concept

| Source | df. | M.Square | M.S.R. | Significance Level |
|---|---|---|---|---|
| Sex | 1 | 10.22 | .26 | |
| Treatment | 1 | 110.95 | 2.85 | .10 |
| Interaction | 1 | 0.38 | .01 | |
| Error | 176 | 38.88 | | |

| | | |
|---|---|---|
| Mean | Experimental | 10.48 |
| | Control | 12.87 |

For Positive Self Concept there is a significant sex difference, the males scoring higher (i.e. showing more positive self concept) than the females. No difference between the E and C groups was evident, however. The position with Negative Self Concept was different. The E. Group scored lower on this variable than did the C group (i.e. did not exhibit a negative self concept to the same degree) and this finding indicates

that Hypothesis 2, that there is no difference between the E and C groups on this variable, should be rejected.

Scores on the Lie Scale were also subjected to an analysis of variance. This analysis revealed a significant difference between the experimental and control groups with the E group scoring significantly higher than the C group (Mean E 5.62, Mean C 4.30, $\rho < .05$). However, although there is a demonstrated statistical difference between the two groups, psychologically the difference is of little consequence since usage of the Self Concept Scale indicates that it is not until a Lie Scale score of 7 or 8 is reached that a person deviates from the normal range of scores. While Lie Scale scores remain within the normal range scores on the other two scales can be accepted without question.

As a further measure of social adjustment responses to four questionnaire items were considered. These items sought information about students' social activities over a period of two weeks prior to testing. They were asked the number of times they had been out with friends, how many of these outings were with university friends, and the number of university club or society meetings they had attended.

The mean number of outings for E group was 5.58 and for the C group 5.84. Of these 2.04 and 2.21 respectively were with university friends. The mean number of university club or society meetings attended was 0.28

for the E group and 0.22 for the C group; of these 0.12 and 0.08 respectively were of a social nature. None of the differences between these pairs of means was significant and consequently the evidence from this part of the study does not support the rejection of Hypothesis 2.

Self-Ideal Relationship

The questionnaire required respondents to answer a set of questions first in relation to themselves and second according to how they would respond if they were the students they would like to be. Difference scores on each item for each respondent were determined and summed over all questions to produce a total discrepancy score. These scores formed the basis for comparing the experimental and control groups. No significant differences were found and consequently there was no evidence to support rejection of Hypothesis 3. (Experimental Mean 19.64 Control Mean 18.76).

Discontinuation

If the effect of the experimental treatment achieved its aim of assisting first year students adjust to the university, and particularly to the requirements of the Geography Department then one would expect that students exposed to this treatment would be less likely to discontinue their subject than those not so exposed. In fact at the conclusion of the first term 8.6% of the experimental group and 12% of the control group had dropped Geography 1. This discrepancy continued throughout

the academic year for by the end of that time 12.1% of the experimental group and 17.9% of the controls had discontinued.

However, these differences did not reach an acceptable level of statistical significance and are not sufficient to support rejection of Hypothesis 5.

Academic Competence

This variable was considered from two points of view. First scores for Study Habits and for Study Attitudes obtained on the Brown-Holtzmann Survey of Study Habits and Attitudes were analysed. Secondly results obtained by the E and C groups on the first term Geography I examination were compared.

TABLE 4

Brown-Holtzmann Mean Scores

| | | Study Habits | Study Attitudes |
|---|---|---|---|
| Experimental Male | (11)* | 40.45 | 52.91 |
| Experimental Female | (39) | 47.00 | 55.85 |
| Experimental TOTAL | (50) | 45.56 | 55.20 |
| Control Male | (53) | 41.20 | 50.62 |
| Control Female | (73) | 45.00 | 52.86 |
| Control TOTAL | (126) | 43.39 | 51.92 |

* Number of cases in brackets.

It can be seen from Table 4 that the E group scored higher than C on both Study Habits and Study Attitudes. However, the difference did not reach an acceptable level of significance and consequently the evidence does not support rejection of Hypothesis 4.

As a further measure of academic competence the first term Geography I examination results were examined. Table 5 shows the mean scores obtained by each sex within the two groups.

TABLE 5

Mean First Term Exam Results

| | Experimental | Control | Total |
|---|---|---|---|
| Male | 56.70 (10) | 52.93 (54) | 53.52 (64) |
| Female | 57.49 (43) | 57.00 (79) | 57.17 (122) |
| TOTAL | 57.34 (53) | 55.35 (133) | 55.91 (186) |

The Experimental group (especially the males) did achieve better results than the Controls, but analysis of variance failed to show the difference to be significant. There was, however, a significant ($\rho<.01$) sex difference with the females scoring higher than the males. Although the trends are in a direction indicating the superiority of the Experimental group the evidence is not strong enough to warrant rejection of Hypothesis 4.

It has already been indicated that the effect of the experimental treatment was assessed at the beginning of the second academic term. In order to see if any change occurred during the year the final end of year examination results for the E and C groups were compared. Again the mean score of the E group (59.73) was higher than that of the Controls (58.21) though this difference is not statistically significant at an acceptable level.

The sex difference detected at the end of first term was still evident ($p < .10$) though the gap had been narrowed to some extent. (Male mean 56.97, female mean 59.42).

Attitude to Environment

Scores on the four environmental press scales, Abasement, Affiliation, Counteraction, Nurturance, were subjected to analyses of variance. On two of these variables significant differences between the E and C groups were established.

TABLE 6

Anova for Environmental Press Variables

| Source | d.f. | Counteraction M.Square | Counteraction M.S.R. | Counteraction Sig. Level | Nurturance M.Square | Nurturance M.S.R. | Nurturance Sig. Level |
|---|---|---|---|---|---|---|---|
| Sex | 1 | .83 | .18 | | 3.07 | .43 | |
| Treatment | 1 | 21.89 | 4.72 | .05 | 39.76 | 5.51 | .05 |
| Interaction | 1 | 1.05 | .23 | | 8.72 | 1.21 | |
| Error | 166 | 4.64 | | | 7.21 | | |
| | | Exp Mean | 5.87 | | Exp Mean | 6.36 | |
| | | Control Mean | 5.01 | | Control Mean | 5.18 | |

Table 6 shows the results of the analyses of variance for scores on these two variables. In both cases the experimental group scored significantly higher than the controls; Hypothesis 6, therefore, should be rejected. The Counteraction Scale provided a measure along a dimension of counteraction - inferiority avoidance, or restriving after failure versus withdrawal. Since the scale seeks to measure the characteristics of the environment, in this case within the Geography

Department, we may infer specifically that the E group see the Geography Department as exerting pressure towards restriving more than the C group do.

The Nurturance Scale provides a measure of the dimension, helping others versus indifference. The E group more than the C group see the climate within the Geography Department as a helping supporting climate.

The effect of the indifference between the two groups on both dimensions, Counteraction and Nurturance, is likely to promote greater morale among those in the E group and this is an important contribution of the experimental treatment.

Additional Comparisons

The questionnaire developed for this study contained thirty-nine items to which respondents replied on a four point scale. Twenty-one of these items were repeated with new instructions requesting the respondents to answer as if they were the kind of student they would like to be. This set of 21 items made possible the self-ideal comparisons already referred to.

Responses of the E and C groups to each of the items were compared. The two groups did not differ on any of the 21 items with an ideal response set. It seems that both groups had the same picture of the ideal student. However, a number of differences existed for responses relating to the way respondents saw themselves.

Question 23 read: "I study to no set plan". Analysis of variance shows a significant sex difference ($p<.025$) for responses to this question, the males more often than the females studying without a set plan. (Mean Male score 1.94, Mean Female score 2.43).

Question 25 read: "If there is something I want to know I ask questions of lecturers or tutors". Results of the analysis of variance for this question are shown in Table 7. This shows that the E group are more likely to ask questions of academic staff than the C group.

TABLE 7

Anova Question 25. - (Ask question of staff)

| Source | | d.f. | M.Square | M.S.R. | Significance Level |
|---|---|---|---|---|---|
| Sex | | 1 | 0.35 | .30 | |
| Treatment | | 1 | 4.41 | 3.75 | .10 |
| Interaction | | 1 | 0.23 | .19 | |
| Error | | 177 | 1.18 | | |
| Mean | Experimental | | 2.36 | | |
| | Control | | 2.02 | | |

Question 27 read: "I dislike attending lectures". On this question also a significant sex difference occurred. Males showed a greater dislike of attending lectures than did females (Male mean 1.87, Female mean 1.63; $\rho < .10$).

Question 31 also showed a sex difference. This question read: "I leave doing essays, assignments, reports etc. to the last minute". Analysis of variance showed no difference between the E and C groups, but indicated that women students were significantly less likely than men to leave work till the last minute (Male mean 2.57, Female mean 2.22).

Question 36 read: "I am clear about the reasons I am at University". Results of the analysis of variance are shown in Table 8.

TABLE 8

Anova Question 36. - (Clear reasons for Uni.).

| Source | d.f. | M.Square | M.S.R. | Significance Level |
|---|---|---|---|---|
| Sex | 1 | 7.02 | 8.06 | .01 |
| Treatment | 1 | 1.37 | 1.57 | |
| Interaction | 1 | 3.04 | 3.54 | .10 |
| Error | 177 | .87 | | |
| Mean | Males 1.85 | (Exp. 1.27 | Control 1.96) | |
| | Females 1.40 | (Exp. 1.39 | Control 1.40) | |

The interesting feature of this analysis is the interaction effect between the two variables. A significant sex difference, with women shown to be more clear than men about their reasons for being at University, is revealed, but this difference occurs only in the Control group. The mean scores of the two sexes in the Experimental group are almost identical. It seems that women students enrolled in Geography 1 ( a large proportion of whom would be teacher scholarship holders) are more clear about their reasons for being at University than are the men students. If the experimental treatment provided students an opportunity to explore their aims and the effect of this treatment was to make their aims clearer for male students, then this must be regarded as a beneficial effect of the programme.

Question 38 was framed as follows: "I am getting pleasure from involvement in social or recreational activities at University". Analysis of responses to this question showed a significant difference between the Experimental and Control groups. The Experimental group were more in agreement with this statement than the Control group. Results of this analysis are shown in Table 9.

TABLE 9

Anova Question 38 - (Pleasure in Social Activities).

| Source | d.f. | M.Square | M.S.R. | Significance Level |
|---|---|---|---|---|
| Sex | 1 | .06 | .04 | |
| Treatment | 1 | 4.10 | 2.89 | .10 |
| Interaction | 1 | .01 | .01 | |
| Error | 177 | 1.42 | | |
| Mean | Experimental | | 2.28 | |
| | Control | | 2.62 | |

One further question on which sex differences were revealed was Question 52. This read: "I discuss study matters with other students at University". Reference to Table 10 shows that for this question a significant interaction effect was present. As with Question 36, there is no difference between the sexes in the E group, but a significant difference occurs in the C group. Males in the C group do not discuss study with other students as much as females do. If this represents a sex trait and the effect of the experimental programme has been to make the males more like the females, in this respect, then this would appear a desirable outcome.

TABLE 10

Anova Question 52 - (Discuss study with other students).

| Source | d.f. | M.Square | M.S.R. | Significance Level |
|---|---|---|---|---|
| Sex | 1 | 16.25 | 18.06 | .01 |
| Treatment | 1 | 0.86 | 0.95 | |
| Interaction | 1 | 3.81 | 4.32 | .05 |
| Error | 177 | 0.90 | | |

| Mean | | | | | |
|---|---|---|---|---|---|
| | Male | 2.13 | (Exp. 2.73 | Control | 2.02) |
| | Female | 2.80 | (Exp. 2.77 | Control | 2.81) |

Responses to the 39 questionnaire items from all 268 persons, including later year students, involved in the study, were factor analysed. A Principal Components analysis was conducted with factors rotated to simple structure by the Varimax procedure. A standard computer programme available at the University of Sydney Computer Centre was utilised for the purpose.

In all twelve factors were extracted but only seven of these could be interpreted meaningfully. None of the seven factors accounted for more than ten percent of the variance, and only three accounted for more than five percent. It was decided that consideration of those factors accounting for less than five percent of the variance was not warranted.

The three factors which were examined were labelled Academic Orientation (9.5% of the variance), Social Isolation (6.24%) and Environmental Hostility (6.24%). Items which identified these factors and which constituted sub-scales are set out in Table 11.

TABLE 11

SCALE ITEMS.

A. Academic Orientation

1. Whenever I think about it, I really like being a University student.
2. I think being a member of the academic staff here would be interesting and rewarding.
3. I get satisfaction from studying.
4. When I am at University I enjoy just being around the place.
* 5. I think most people look down on University students.
6. I feel I really belong at University.
7. I discuss study matters with other students at University.

B. Social Isolation

* 1. I am getting pleasure from involvement in social or recreational activities at University.

* 2. I feel satisfied with the number of friends (as against acquaintances) I have made at University.

3. When I am at University I feel lonely.

* 4. I discuss personal matters with other students at University.

5. I eat lunch alone.

6. When I have lunch with other students I feel uncomfortable.

C. Environmental Hostility

1. I think most academic staff are unconcerned about how effectively they are teaching.

2. I dislike attending lectures.

3. I feel uncomfortable in lectures.

4. I feel uncomfortable in tutorials.

* 5. I am learning a lot through doing set work (essays, assignments, reports etc.).

* denotes items scored in reverse directions.

Scores on the three scales were derived for each respondent and analyses of variance were conducted to examine experimental - control and sex differences. No significant differences between the E and C groups were found but a significant difference ($p < .025$) between the sexes was revealed on the Social Isolation scale. Males scored higher (i.e. indicated greater social isolation), than the females. However, an interaction effect was present, and the bulk of the sex difference results from differences in the Control group only (Control Males 14.43, Females 12.61; Exp. Males 12.27, Females 12.44) It may well be that any effect of the experimental treatment as it affects social isolation has assisted males but not females towards improved social interaction.

## DISCUSSION

There were a number of difficulties and drawbacks associated with the experimental procedure followed in this study. Some of these have already been mentioned. Foremost among them is the lack of rigorous experimental control which was possible to achieve over the small group activities. In addition the nature of the Geography course as a contributor to student interaction should not be overlooked.

In view of these difficulties it would not be surprising if no differences could be detected between the E and C groups. Yet such was not the case. The import of the outcome does not rest in the strength of difference detected on any one variable but on the presence of demonstrable significant differences on many variables. Even on those variables where the difference was not significant the direction usually favoured the E group. There were 42 independent comparisons possible on the various tests and questionnaires used in the study for which it could be asserted on *a priori* grounds that a difference in a particular direction indicated superior adjustment. Mean scores for the E and C groups were tied on eleven of these variables. For the remaining 33 comparisons one would expect on a random basis a 50/50 distribution of differences indicating a more favourable adjustment. However, when all the above mean differences were examined it was found that on 22 of the 33 variables the difference favoured the E group. The probability of such an event occurring by chance is less than .05.

This study did not demonstrate a better examination performance for the E group but showed them to interact with the university environment in a more productive fashion than the Controls. They appeared to discuss and socialise with other students more than the controls and perceived the climate in the Geography Department to be more positive and supportive than the Control group did. The major effect of the experimental procedure seems to have been to improve student - student and student - staff interaction. This is a highly desirable outcome. However, senior members of the Geography Department believe that benefits did not accrue solely to the first year students involved, but that the senior students who acted as group leaders also derived benefit. The Head of the Geography Department, Professor Langford-Smith, has reported that by the time they reached their honours year this group of senior students were the most cohesive group he had known. They co-operated well together and more than any other group in his experience extended their contacts into social activities outside the University. He believes this situation can be attributed to their involvement in this study. Although such an outcome was not one of the aims of the study it is nonetheless a valuable side benefit which should not be overlooked.

The procedure adopted in this study is a very simple one. It is capable of further refinement and improved organization. The positive outcome accruing from such a simple procedure should encourage academic

departments to experiment with similar programmes. It should not be overlooked that the nature of the Geography course brings students into close contact with each other and with staff members in the course of practical work and field excursions. A few other courses such as geology and biology have similar benefits. If the experimental procedure adopted in this study could be domonstrated to improve the adjustment of first year students in a course like Geography, then it can be expected that a similar programme in departments not enjoying the benefits of field excursions etc. could have even more noticeable effects.

This study has demonstrated that positive outcome can be achieved with simple procedures. The initiative for further exploration in other departments must come from within those departments. Hopefully that initiative will be there. Members of the Student Counselling Service are willing to consult with departments or individual staff members who wish to consider ways of improving the adjustment of their students to the university environment.

## REFERENCES

DIAMOND, S. Information and error. New York: Basic Books, 1959.

FREDERICK, J. Contact: A student-run information and referral service. Education News, 1970, 12, 14-16.

GENN, J.M. School-to-university transition as a change of environmental press. Brisbane: University of Queensland Papers, Faculty of Education, Vol.2. No 1. 1971.

MURRAY, H.A. (Ed) Explorations in personality: A clinical and experimental study of 50 men of college age by the workers of the Harvard Psychological Clinic. New York: Science Editions Inc., 1938.

PACE, C.R. & STERN, G.G. An approach to the measurement of psychological characteristics of college environments. Journal of Educational Psychology, 1958, 49, 269-277

UNIVERSITY OF ADELAIDE STUDENT COUNSELLING SERVICE. Transition in education, secondary to tertiary. Adelaide: Author, 1971 (Mimeo).

UNIVERSITY OF ADELAIDE STUDENT COUNSELLING SERVICE. Transition in education, secondary to tertiary. Adelaide: Author, 1972 (Mimeo).

UNIVERSITY OF NEW SOUTH WALES, EDUCATIONAL RESEARCH SECTION: Transition from school to university. Sydney: Author, 1960 (Mimeo).

UNIVERSITY OF QUEENSLAND A Report of a conference between university staff and Queensland secondary school principals 5th and 6th May 1955 at Queensland University. Brisbane: Author 1955 (Mimeo).

# APPENDIX

## GUIDE LINES FOR SENIOR STUDENTS

## GEOGRAPHY CONTINUING ORIENTATION PROGRAMME

### 1. Continuing Orientation Groups

1.1 Introduction This programme is an effort to help beginning university students move through the difficulties of adjusting to the changes from school to university as comfortably, quickly and effectively as possible. Your meetings with your small group of beginning students represent the means whereby we hope this process of adjustment to and integration within this new and demanding situation can be facilitated.

The small group meetings are intended to provide a regular, definite contact point where the beginning students know they can meet, talk and find out about university.

1.2. Your Role The process of adjusting to the demands of learning at university, meeting the university requirements of essays, tutorial involvement, prac. work and exams, and exploring and familiarizing yourself with the complex structures and social and recreational opportunities of university life is not over in first term or first year. Thus we do not expect you to be an expert or to know it all. Rather you are somebody who is "getting by" at university, and as such we think your ongoing experience is of value to beginning students. We don't expect you to be anything but what you are, in your contact with the beginning students.

1.3. In the Small Groups Communication: In the small groups an important role for you will be to encourage the flow of communication from the beginning students to yourself and between the beginning students.

- Guidance: Many questions may be asked of you. You know more about the university than the beginning students do, so you can provide answers to some or many of their queries.

- Friendly concern: Providing interested friendly concern in what the beginning students have been doing, thinking and feeling will encourage communication. But there is no need to be instrusive or insistent.

- Self disclosure: At times talking about your own university experiences may stimulate communication and reassure the beginning students.

- Not a problem solver: It is not your role to have to tell a beginner what is the right or appropriate thing to do if he or she comes to you with a difficult problem or an emotional upset. Whilst listening usually helps, it is not expected that you provide solutions or prescribe appropriate ways of behaving.

- Not an academic coach: It is NOT your role to act as an academic coach and help with specific course problems. However it is possible that students may want to talk about study techniques, practical work, future courses and areas of academic interest in a general way. If you feel comfortable discussing these go ahead.

- Activities: There is no need to spend all your meetings sitting and talking. There are plenty of things to do around the university at lunch time or at other times. Do some of these together, as a group.

- Limits: Don't do anything you don't particularly want to do. We don't expect you to make a martyr of yourself.

2. Guide Lines for Senior Students in the Supervisory Group

2.1 Introduction You will meet for an hour each week with other third year students involved in the programme, and with a student counsellor and a member of the Geography Department.

The purpose of these meetings is to provide you with an opportunity to share your experiences in your small group, to express any doubts and concerns you may have, to discuss your reactions to what is going on, to discuss any partucular problems you may be experiencing in your small group and perhaps to get some ideas from the way other senior students are doing things.

2.2 Your Role In the supervisory group you are not required to report on beginning students, on their progress or difficulties. This is not a situation where you are to provide us with information about the beginning students; it is a situation which you can use in any way you wish to help you become more comfortable, effective, satisfied, or whatever you wish in your contact with your small groups. Many of you will have doubts about whether you are doing the "right" thing; periods of resentment at being in a programme at all; hurt feelings if attendance in your

small group drops off; concern about your adequacy to relate to and communicate effectively with the beginning students. If you can overcome any reluctance to discuss these feelings in the supervisory group, you may find that you are not alone in having these feelings and that facing them and sharing them helps you to deal with them satisfactorily.

2.3 In the Supervisory Group Try to help create an atmosphere of co-operation, support and acceptance, rather than one of competition, judgement and criticism.

- Share your ideas, reactions and feelings about your small group experiences with the other group members.

- Ask for opinions, information, ideas or help if you feel you need it. You don't have to prove anything in this group.

- Try to be as open as possible. Open expression of disagreement can be constructive.

- Try to express your feelings as well as your thoughts about what is going on.

2.4 The Role of the Leaders

- Will not be to judge how well you are doing; to tell you the "right" way to do things (there is no "right"way, only ways that seem to you to be most appropriate); to be critical of what you are doing; to suggest things for you to do; or to direct you.

- Will be to encourage communication in the group; to encourage the sharing of experiences, reactions and feelings; to try to clarify issues and resolve any difficulties; and to assist in any way they can.